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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT PAPER NUMBER

1771

DATE MAILED: 11/15/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/624,660

Examiner

Norca L. Torres-Velazquez

Applicant(s)

ROCK ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-32 is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LUMB et al. (US 5312667) in view of FUJIWARA (Abstract Japanese Patent 09-087901A).

LUMB et al. discloses a composite textile fabric for moving moisture away from the skin. It includes a first fabric layer comprising either a polyester or nylon material which has been rendered hydrophilic and a second fabric layer comprising at least 25% by weight of a moisture absorbent material such as cotton. The first fabric layer and the second fabric layer are formed concurrently by knitting a plaited construction. (Abstract) The reference further teaches that the surface of the material in the first fabric layer is raised. (Column 1, line 40). LUMB et al. also teaches that the composite textile fabric is used in garments, including sweatshirts, sweat pants, underwear, bathrobes, and various types of exercise clothing. (Column 1, lines 50-53)

The composite fabric may be constructed as a warp or weft knit, such as a two-end fleece, three-end fleece, terry with regular plaiting, double terry, double needle raschel and tricot. (Column 2, lines 67-68 through Column 3, lines 1-2)

LUMB et al. further teach that the surface of the first fabric layer is raised by napping. The polyester or nylon layer is either round or modified cross-section, 0.3 to 6.0 denier. (Column 3, lines 30-35).

However, the reference does not disclose the use of particles of a refractory compound embedded within the yarn fibers of the inner fabric layer.

FUJIWARA et al. discloses a stocking constituted by a synthetic fiber containing a substance having a heat storing and heat insulating effects by absorbing the visible ray of the sunlight and generating heat through an energy conversion, having the improved heat insulating effect, and excellent in fashionable property. The reference further teaches that the stockings are constituted by a synthetic fiber such as nylon, polyester and an acrylic fiber containing a substance such as zirconium carbide.

Since both LUMB et al. and FUJIWARA et al. are from the same field of endeavor, knitted fabrics with insulating properties, the purpose disclosed by FUJIWARA et al. would have been recognized in the pertinent art of LUMB et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the composite textile fabric and provide it with particles of zirconium carbide with the motivation of providing the fabric with improved heat insulation effect as disclosed by FUJIWARA et al. (Abstract)

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LUMB et al. (US 5312667) in view of GEORGE (US 4,425,397).

LUMB et al. discloses a composite textile fabric for moving moisture away from the skin. It includes a first fabric layer comprising either a polyester or nylon material which has been

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rendered hydrophilic and a second fabric layer comprising at least 25% by weight of a moisture absorbent material such as cotton. The first fabric layer and the second fabric layer are formed concurrently by knitting a plaited construction. (Abstract) The reference further teaches that the surface of the material in the first fabric layer is raised. (Column 1, line 40). LUMB et al. also teaches that the composite textile fabric is used in garments, including sweatshirts, sweat pants, underwear, bathrobes, and various types of exercise clothing. (Column 1, lines 50-53)

The composite fabric may be constructed as a warp or weft knit, such as a two-end fleece, three-end fleece, terry with regular plaiting, double terry, double needle raschel and tricot. (Column 2, lines 67-68 through Column 3, lines 1-2)

LUMB et al. further teach that the surface of the first fabric layer is raised by napping. The polyester or nylon layer is either round or modified cross-section, 0.3 to 6.0 denier. (Column 3, lines 30-35).

However, the reference does not disclose the use of particles of a refractory compound embedded within the yarn fibers of the inner fabric layer.

GEORGE discloses a knit substrate fabric that is formed preferably of fiberglass yarns, but that may be constructed with other kinds of fire resistant knit yarns. The base fabric must have a porosity to impregnate the surface of the fabric and fill, at least partially, some, if not all, of the interstices of the porous fabric. The refractory coating, which is applied to both sides and impregnates the interstices of the porous base fabric, comprises heat resistant refractory materials intermixed or dispersed in a bonding agent. The reference teaches the use of zirconium carbide as one of the refractory materials that will fuse with the porous base fabric when subjected to elevated temperatures. (Column 5, lines 26-56)

Since both LUMB et al. and GEORGE are from the same field of endeavor, knitted fabrics with insulating properties, the purpose disclosed by GEORGE would have been recognized in the pertinent art of LUMB et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the composite textile fabric and provide it with finely divided particles of zirconium carbide with the motivation of providing the fabric with improved heat insulation effect while maintaining the fabric's flexibility and stretch properties as disclosed by GEORGE (Column 3, line 66 through Column 4, line 2).

***Allowable Subject Matter***

1. Claims 19-32 are allowed.
2. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach a composite textile fabric of the present invention that particularly comprises an inner fabric layer that has been treated by metal vapor deposition that further allows for the passage of liquid there through.

The STOCKWELL reference previously used as a secondary reference to reject these claims was found to fail in teaching some of the limitations claimed in the present application. While STOCKWELL teaches the use of layers of conductive metal or metal coated microspheres or solid metal microspheres for the purpose of allowing garments to be made with in-built heating devices to create heat for the wearer of the item (Column 3, lines 42-50); it fails to teach that the inner fabric layer with the metal vapor deposit allows for passage of liquid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 703-306-

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5714. The examiner can normally be reached on Monday-Thursday 8:30-2:30 pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

nlt

November 13, 2002

  
ELIZABETH M. COLE  
PRIMARY EXAMINER